

## ABSTRACT OF THE DISCLOSURE

5 The invention replicates a packet requiring high availability and transmits it from two or more ports of a switch, for example a wiring closet Layer 2 switch. The parent packet carries a unique sequence number. The copies of the packet each carry the parent packet's unique sequence number. Each copy of the packet then travels on separate pathways through routers (Layer 3 network devices). The pathways are maintained separate by assigning high costs in a LSP routing sense to links connecting the two paths, and by  
10 assigning low costs to links along the desired paths. The two identical packets converge on the destination station. The destination station accepts the first packet with a particular sequence number, and discards any later packets with the same sequence number. In the event that a link in one path has a catastrophic failure, then the packet travelling along the other path reaches the destination station and service remains operative without interruption.  
15 The lost path is then recomputed by the a router (if any) still receiving the lost packet. A new non-converging path may be selected if any are available, depending upon the topology. After the disruption is repaired, the original dual pathways may once again be established.